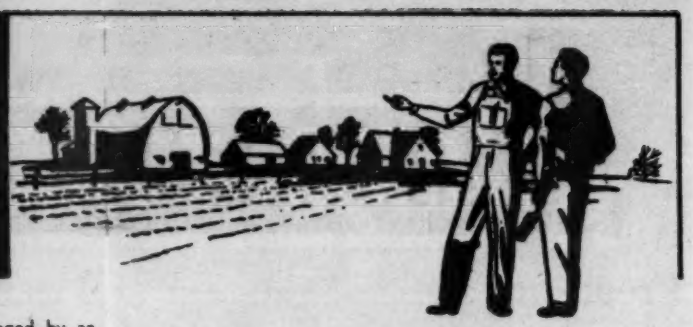
The AGRICULTURAL EDUCATION Magazine

VOLUME 30 SEPTEMBER, 1957 NUMBER 3

ture legend, page 54

Featuring— Teaching Aids

The Agricultural Education Magazine



A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by Interstate Printers and Publishers, Danville, Illinois.

THE INTERSTATE DANVILLE, ILLINOIS

MANAGING EDITORS

A. H. Krebs, University of Illinois, Urbana, Illinois
Editor

W. A. Smith, Cornell University, Ithaca, New York
Consulting Editor

Henry TenPas, Oregon State College, Corvallis, Oregon
Business Manager

SPECIAL EDITORS

CENTRAL
Ralph J. Woodin, Ohio State University, Columbus, Ohio
Arthur B. Ward, University of Nebraska, Lincoln, Nebraska

NORTH ATLANTIC
H. R. Cushman, Cornell University, Ithaca, New York
Paul M. Hodgson, University of Delaware, Newark, Delaware

PACIFIC
S. S. Richardson, Utah State College, Logan, Utah
Howard Christensen, University of Nevada, Reno, Nevada

SOUTHERN
O. L. Snowden, Mississippi State College, State College, Miss
J. C. Atherton, University of Arkansas, Fayetteville, Ark.
T. W. Gandy, Alabama Polytechnic Institute, Auburn, Ala.

AT LARGE
Neldon A. Taylor, Redding, Calif.
Teachers
Gerald B. James, North Carolina State College
Book Reviews
H. N. Hunsicker, U. S. Office of Education, Washington, D. C.
Vocational Division

SPECIAL REPRESENTATIVES

Pacific, Jack Ruch, Laramie, Wyoming
Southern, E. W. Garris, Gainesville, Florida
North Atlantic, John A. Snell, Augusta, Maine
Central, Harold B. Taylor, Indianapolis, Indiana
N.V.A.T.A., Paul P. Mechling, Lancaster, Ohio

EDITING-MANAGING BOARD

Jack Ruch, Wyoming; E. W. Garris, Florida; John A. Snell, Maine; Harold B. Taylor, Indiana; Paul P. Mechling, Ohio; W. T. Spanton, Washington, D. C.; G. P. Deyoe, Illinois; Robert Bishop, Wyoming; Henry TenPas, Oregon; W. A. Smith, New York.

Contents

Editorials

Producing and Distributing Teaching Aids..... R. C. Butler..... 51

The Three Most Important Aids..... J. B. Perky..... 51

Let's Do Something About Teaching Aids!..... Duane Foote..... 52

What Units Should We Teach?..... B. C. Bass..... 53

Re-Shaping of a State Vocational Agriculture Program..... G. M. Harrington and Walter Jacoby..... 55

Teaching Aids..... Fred V. Meinke..... 59

The Teacher of Agriculture as Thinker and Scholar..... H. M. Hamlin..... 60

State Land Judging Contest..... N. C. Nicholson..... 61

Instruction in Agriculture in Non-Land-Grant Colleges in the United States..... William F. Braziel..... 62

The Use of Farm Periodicals in Teaching..... Merwin Stearns..... 64

Bald Knob Portrays FFA Activities with Local Movie..... Justin Richardson..... 64

What Happens to Your Publications?..... Howard L. Miller..... 65

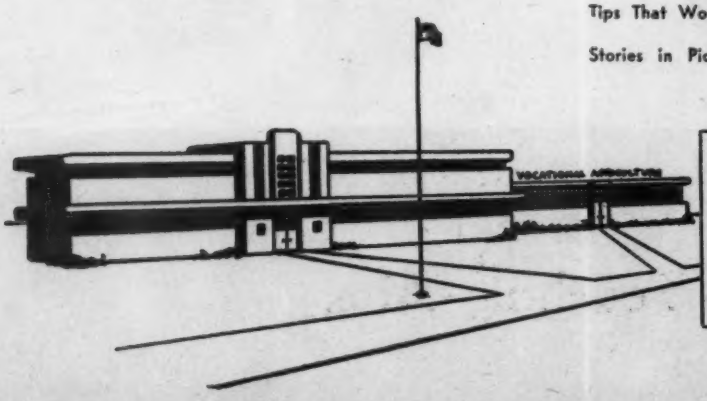
Make Those 2" x 2" Slides Yourself..... Gerald R. Fuller and F. K. T. Tom..... 67

Some Suggestions on Filing Materials..... Joe P. Bail..... 69

News and Views of the Profession..... 70

Tips That Work..... 71

Stories in Pictures..... 72



Subscription price, $2.00 per year, payable at the office of the Interstate Printers and Publishers, 19-27 N. Jackson St., Danville, Illinois. Foreign subscriptions, $2.25. Single copies, 20 cents. In submitting subscriptions, designate by appropriate symbols new subscribers, renewals and changes in address. Contributions should be sent to the Special Editors or to the Editor. No advertising is accepted.
Entered as second-class matter under Act of Congress March 3, 1879, at the post office in Danville, Illinois.

Editorials

Producing and Distributing Teaching Aids

R. C. BUTLER, Teacher, Education,
West Virginia University.

To stress or praise any one teaching aid, or type of teaching aid, would most likely get me "in Dutch" with virtually everyone who might read these lines. Therefore, the approach decided upon was that of setting forth a how, and why, of producing and distributing teaching aids by agricultural education personnel in my home State. By setting forth a plan used in a given situation, it is thought that perhaps an idea for use might be gleaned by someone responsible for preparing teaching aids for vocational agriculture. This is most likely to be true for a new person entering the field of subject matter work.

Around the early 1930's, or even in the 1920's, there was considerable interest in visual aids on the part of vocational agriculture people. It is believed safe to record that agricultural education and vocational agriculture personnel were among the pioneer leaders in forming the West Virginia Society for Visual Education. Pictures, particularly of vocational agriculture students and their supervised farming programs, were used as feature in the VO-AG PILOT, a publication printed and distributed through the office of the State Supervisor, and for making more real the FFA chapter materials submitted in the "Better" chapter contests on the Regional, State, and National levels. Special visual aid equipment and rooms specifically equipped for audio visual aid work received emphasis which continues to this day.

Through the years, certainly as early as 1933, and since, there has been much interest in and use made of the printed materials which were labeled EXPERIMENTAL DATA. They were furnished by the teacher training department, mainly for use in making charts, particularly by teachers of young and adult farmer classes and groups.

Also, supplied to teachers as early as 1932 and continuing to the present are the publications: SUPERIOR PRACTICES FOR LIVESTOCK ENTERPRISES and SUPERIOR PRACTICES FOR CROP ENTERPRISES. These, as one of the early writers in the State remarked, "are for the use of the teacher, and not to be put in the hands of the student." Many teachers use superior practices lists as a basis for making lesson plans.

Teacher groups in regional areas decided sometime during the late 1930's to help each other prepare Job

(Continued on page 59)

The Three Most Important Aids

J. B. PERKY, State Supervisor, Oklahoma.

Today, farming is "big business" and, likwise, the training and education of farmers and agricultural workers is big business. The big business of farming has created investments of ever-increasing size. Likewise, our investment in manpower and facilities for the supervision of learning is much larger than a decade ago. We are gratified to see substantial increases in agricultural libraries, audio-visual equipment, and other standard teaching aids.

Larger investments in farming emphasize the need for proper care and management in the use of machines and equipment. Citizens have a right to demand the best care and management of facilities and manpower in the business of learning.

The most important "aid" to the learning business, and one for which there is no substitute, is the Vocational Agriculture instructor's willingness to work and dedication to his task. Some fine facilities for teaching Vocational Agriculture are often left unused because of the limitations in desire or ability on the part of the local teacher of Vocational Agriculture. Teachers must sincerely believe that they are performing a most important task if they are to use the facilities and teaching aids which they have to the maximum. Nothing succeeds like success.

More important than the material equipment which teachers of Vocational Agriculture have at their disposal are three other aids. First, as vocational people, we are working with a combination of the boy and something of material value which he can call his own. Ask any Future Farmer which animal gets the best care at home as he performs chore tasks—those belonging to his parents or those which are his own. This is an "aid" which gives teachers of Vocational Agriculture a great advantage over teachers of other subjects. Let us use this teaching aid to a maximum as we develop programs of supervised farm training with sufficient size and scope to challenge students. The second teaching aid which we offer is the association we have with the families of students. Psychologists and teacher educators again and again emphasize the importance of teachers' knowing the farming situation. Teachers of Vocational Agriculture who really care about their work are as well acquainted with the farm situation and the home condition of their students as with the books on the library shelf in their

(Continued on page 54)

Let's Do Something About Teaching Aids!

Nebraska Study Shows Need for Action

DUANE FOOTE, Vo-Ag Instructor,
Chappell, Nebraska.

Duane Foote

THE rapid development in audio-visual aids has presented problems which are not always easily answered and these may affect, to a considerable degree, the extent to which teaching aids are utilized. New developments bring new responsibilities. If the most effective use of teaching aids is to be realized, some of the existing problems and responsibilities must be identified before success can be expected in improving existing conditions.

Numerous studies in audio-visual education have established that the use of audio-visual materials by a capable instructor is a worthwhile and time-saving aid to instruction. Properly chosen aids help students understand and remember information, thus improving the learning process. This is especially true when working with abstract ideas. Learning is more complete if the learner experiences reality. Experiences in seeing and hearing through the effective use of audio-visual aids make a situation more real than does hearing alone.

It is the responsibility of the school and the teacher to do the best job possible in helping the students understand, and work effectively in, the society in which they must live. The use of teaching aids motivates the student, keeps him mentally alert, makes learning more permanent, and stimulates self-activity on the part of the student. In view of the advantages of properly used teaching aids, it would seem imperative that an earnest effort be made to give students the benefit of the best possible teaching techniques.

Since it is recognized that various problems can affect teacher use of classroom materials, the writer conducted a study of "Factors Affecting the Use of Selected Teaching Aids by Teachers of Vocational Agriculture in Nebraska" to ascertain the extent to which various teaching aids are available to vocational agriculture instructors in Nebraska and how frequently these aids are used as a means of improving instruction. Also, the problems encountered in securing and using teaching aids and the degree of seriousness of these problems were explored.

Questionnaires were sent to 128 vocational agriculture instructors in Nebraska who had had at least one year of teaching experience. A total of 115, or 89.9 percent, of the questionnaires were returned by the instructors. Nine of the returned questionnaires were not usable, leaving 106, or 82.8 percent, which were utilized in the study.

Teaching Aids Available

In general there is much to be desired from the standpoint of availability of audio-visual and teaching aids in Nebraska vocational agriculture departments. Some items of equipment and materials were available to a considerable extent, whereas other were available to a relatively small proportion of the vocational agriculture instructors contacted.

The motion picture projector, as might be expected, was available to all 106 instructors. Ninety-four of the instructors have access to combination slide and filmstrip projectors. Very few of the teachers—about one-fourth of them—indicated that they have access to filmstrip and slide projectors as separate machines. Nearly two-thirds of the instructors did not have an opaque projector.

Considerable emphasis has been placed on the value of development of teaching materials by the local teacher. This, of course, requires certain types of production equipment. Of the production equipment items, the record player, the tape recorder, and the still camera were most commonly used by the vocational agriculture instructors surveyed. Each of these items was available to more than 80 percent of the teachers. On the other hand, less than 25 percent of them had access to a television set, wire recorder, photographic darkroom, and/or motion picture camera. The radio was available to nearly 67 percent of the 106 teachers.

By way of contrast, the bulletin board and blackboard were available to 100 percent of the instructors, whereas the sand table—which requires little besides imagination and energy to construct—was available to only one man in eight. Filmstrips, charts, slides, and motion picture films were available to most of the instructors, but a considerable number reported that models, the flannelboard, recordings and transcriptions, and mockups were not available to them.

Teaching aids equipment and materials were available to teachers from a number of sources. The school was the most common source of projection equipment. Also, most of the production equipment could be obtained from the school or outside sources. Motion picture film was available in most instances from sources outside the school. A bulletin board and blackboard were owned in most cases by the vocational agriculture department or the school. Thirty-two of the FFA chapters owned still cameras which the instructors used. The FFA chapters also owned slides and exhibits in a number of cases.

Use of Teaching Aids

Except for a few items of equipment and materials, teaching aids were not used very extensively by the teachers surveyed. All of the instructors reported that they were using a motion picture projector. The only other item of projection equipment being used extensively was the combination slide and filmstrip projector. Nearly three-fourths of the instructors reported that they never used the opaque projector.

The still camera was the only item of production equipment which was used frequently by vocational agriculture instructors. Seventy-five percent of the instructors reported using the still camera. Very little use was made of photographic darkrooms, television sets, wire recorders, and motion picture cameras. The tape

(Continued on page 54)

In Planning Farm Management Instruction - - -

What Units Should We Teach?

B. C. BASS, Teacher Education,
Virginia Polytechnic Institute.

B. C. Bass

IT IS common knowledge that the efficiency with which a farming business is operated largely determines whether the operator of that business can successfully meet the intense competition he faces. Recent developments affecting agriculture add significance to this fact. Therefore, it is more important than ever that individuals enrolled in vocational agriculture classes receive the instruction they need in the area of farm management.

In order to secure information to be used as a basis for attacking this problem, a study was made in Virginia during 1957 to determine the units in the area of farm management which, in the judgment of experienced teachers of vocational agriculture, should be taught to high school (all-day) students, young farmers, and adult farmers.

Procedure

Each individual in a large randomly selected sample of teachers of vocational agriculture in Virginia was asked to provide data for the study.

A copy of a prepared form was supplied each selected teacher on which he could indicate whether he considered each unit should be taught to each type of class. The form permitted the teacher to list additional units in farm management in case the form did not have listed on it all of the units he considered should be taught.

Findings

Seventy-one teachers of vocational agriculture provided the data which is summarized in the accompanying table. It may be seen at a glance that a large majority of the teachers judged that almost all of the units in the area of farm management should be taught to each of the three types of classes. However, there are some noteworthy variations.

Only 33.8 per cent of the teachers believed that high school (all-day) classes should be taught the unit "Securing Membership in Local Civic Organizations," and less than half of the teachers indicated that this unit should be taught to adult-farmer classes. Less than half of the teachers favored teaching "Developing the Need for Using Farm Explosives" to high school (all-day) classes. These may be considered of less importance, especially for in-school classes, than some other units in the area of farm management.

On the other hand, one of the most important units is "Determining the Machinery Needed to Operate a Farm Efficiently." More than 90 per cent of the teachers judged that this unit should be taught to high school (all-day) classes, young-farmer classes, and adult-farmer classes. Also considered highly important by the teachers were the following units: "A Basic Study of Plant Needs and Fertilizers," "Inventorying the Farm Business," "Keeping Farm Records," and "Balancing the Farm Business Operation."

Implications

Every teacher should determine the needs of the students in his class, then

(Continued on page 54)

Units in the Area of Farm Management Which Should Be Taught

Teaching Units in the Area of FARM MANAGEMENT	*Proportion of the 71 Participating Teachers Who Indicated the Unit Should Be Taught to:* All-Day Students	Young Farmers	Adult Farmers
A. *Basic Study*			
1. A basic study of plant needs and fertilizers	92.9%	88.7%	81.6%
2. A basic study of feeds and feeding	95.7%	84.5%	81.6%
3. A basic study of lime	88.7%	78.8%	73.2%
4. Becoming familiar with farm law	69.0%	92.9%	83.0%
5. Securing membership in local civic organizations	33.8%	59.1%	49.2%
6. Determining need for and using farm explosives	45.0%	83.0%	71.8%
7. Using the Services of Farm Cooperatives	81.6%	87.3%	76.0%
B. *Farm Management*			
1. Making a survey of the home farm and preparing a long-time farm program	70.4%	80.2%	63.3%
2. Inventorying the farm business	92.9%	91.5%	77.4%
3. Keeping farm records	92.9%	91.5%	88.7%
4. Closing records & making financial summary	92.9%	83.0%	73.2%
5. Analyzing results of farm records	88.7%	78.8%	74.6%
6. Selecting a farm to buy or rent	81.6%	88.7%	61.9%
7. Buying farm supplies	83.0%	90.1%	73.2%
8. Filing income tax returns	61.9%	84.5%	84.5%
9. Insuring buildings, crops & livestock	80.2%	91.5%	84.5%
10. Financing the farm business	77.4%	94.3%	78.8%
11. Fencing the farm	80.2%	90.1%	81.6%
12. Securing services of State and Federal agencies	80.2%	90.1%	85.9%
13. Securing and using farm labor efficiently	66.1%	84.5%	80.2%
14. Developing an annual farm plan	85.9%	91.5%	83.0%
15. Determining the machinery needed to operate the farm efficiently	90.1%	92.9%	91.5%
16. Maintaining a balance between crops and livestock or Balancing a farm business operation	91.5%	91.5%	85.9%
17. Developing a soil & water conservation program	87.3%	88.7%	87.3%
18. Adapting a farm business to government control programs	59.1%	85.9%	81.6%
19. Evaluating supervised farming or farming programs	85.9%	70.4%	63.3%
C. *Farm Family Living*			
1. Providing an adequate water supply	85.9%	92.9%	85.9%
2. Providing bathroom & sewage disposal	81.6%	87.3%	83.0%
3. Providing an efficient heating system	59.1%	77.4%	69.0%

What Units - - -

(Continued from page 53)

include in his teaching calendar units to fulfill these needs. The findings of the study summarized herewith provide a teacher with an excellent guide. In addition, the list of teaching units in the area of farm management may be used as a check list to insure the consideration of each unit.

Greater emphasis should be given to basic jobs while students are still in school, with less emphasis for young farmers and still less for adults. The greatest over-all need for instruction in farm management exists with young farmers.

In planning programs of young-farmer education, it is essential that farm management be included as a major area of their annual course of instruction if their needs, as expressed by teachers of vocational agriculture, are to be met through the Program of Vocational Agriculture. □

The Three - - -

(Continued from page 51)

department—I hope even more so. For this is indeed a valuable teaching aid. The third teaching aid which should challenge all of us is the great potential in the Future Farmers of America. As boys compete for honors and attainments in leadership, we see interest and enthusiasm which is generated in no other way. Every Vocational Agriculture instructor must encourage participation in competitive FFA events to utilize this aid.

In presenting these three teaching aids, I maintain they are far more important than the material teaching aids which we so often associate with this term. Vocational Agriculture teachers are fortunate in enjoying all three of these advantages. Can we fully appreciate these aids for good teaching? This is our challenge, and our challenge is our future. □

Let's Do Something - - -

(Continued from page 52)

recorder was used by 73 of the 106 instructors, the record player by 55 instructors, and the radio by 36 of the men.

The frequency of use of materials varied considerably depending upon the material. The bulletin board and the blackboard were used regularly by nearly 100 percent of the instructors. On the other hand, very little use was made of the sand table; 102 instructors reported that they had not used it at all. Charts, filmstrips, motion picture films, screens, slides, specimens, graphs, and posters were used quite frequently by the instructors. Mockups, recordings and transcriptions, the flannelboard, models, and maps were used by the men much less frequently than were the other materials.

Problems in Use of Aids

Instructors reported a variety of problems in connection with the use of teaching aids in the classroom. Listed among the most serious of these problems were lack of finances for purchase, rental, or construction of materials; the need to order films, filmstrips, etc., many months in advance of anticipated showing time in order to assure availability; and lack of adequate time on the part of the instructor for proper previewing of films, slides, and filmstrips.

Instructors were asked to indicate whether or not they had had a course in visual aids. Those instructors who had had such a course tended to utilize aids in their teaching more frequently than did those who had not had one. This difference was most pronounced with respect to the frequency of use of recordings, models, and mockups—some of the items that were used less frequently by the group as a whole. Those who had had training in the use of visual aids experienced somewhat less difficulty in securing and using teaching aids than did those instructors who lacked such training. However, there appeared to be little difference between the two groups from the standpoint of availability of aids. In other words, one is no better off than the other when it comes to making up materials for use.

Recommendations

Vocational agriculture instructors in Nebraska, on the basis of the study, have relatively little in the way of teaching materials available to them, and they appear not to be making the most of such materials as are available. However, there are some good reasons for existing conditions. Chief among these is lack of finances and lack of background and time to properly implement visual aids in their teaching. The following recommendations are made as a start toward improvement of the situation.

1. More emphasis should be placed on the importance of having a definite portion of the vocational agriculture budget designated for the purchase of teaching aids.

2. Teachers of vocational agriculture should make more effort to secure and use aids as a means of improving their instructional program.

3. The teacher training department should place more emphasis on the use of audio-visual aids in the vocational agriculture program.

4. The possibility of a summer workshop for the purpose of acquainting the vocational agriculture instructors with the types of equipment and materials available and their use should be considered.

5. Teachers of vocational agriculture should be encouraged to utilize free and inexpensive teaching aids, and to make their own aids where possible, when funds are a limiting factor.

6. Vocational agriculture trainees should be encouraged to take an audio-visual aids course in their undergraduate preparation for teaching vocational agriculture. □

The Cover Picture

The cover picture shows a group of student teachers in Agricultural Education learning to operate projectors and recorders. The young men were members of an Audio-Visual Education class at the Alabama Polytechnic Institute, Auburn, Alabama. The teacher, Dr. J. E. Deloney, standing on the far right, demonstrated only one machine at a time, of course, but used the other machines in the picture as "props" to illustrate several types of projectors.

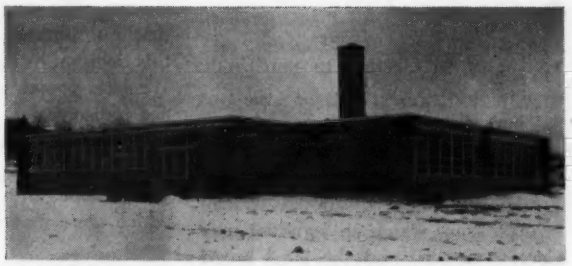
Motion pictures are possibly the most widely used type of audio-visual material. Opaque projectors are used in projecting flat, still pictures, either mounted or unmounted, or from books and magazines. Overhead projectors are useful in projecting materials being written by the teacher while he is writing them, enabling the teacher to face the class while writing. Tape recorders enable the teacher to bring into the classroom many audio programs which would be lost to a group not using a recorder.

Projected materials and recordings add a great deal to the teaching-learning process. They stimulate interest; they speak a fairly "universal" language; they simplify difficult concepts and they create a good emotional tone for teaching. □

Citizens help plan the

Re-Shaping of a State Vocational Agriculture Program

GORDON M. HARRINGTON, Consultant-in-Research
and
WALTER JACOBY, State Supervisor, Agricultural Education
Both of the Connecticut State Department of Education, Hartford.



Middletown Regional Vocational Agricultural Center, a unit of the Woodrow Wilson High School in Middletown, Connecticut, was planned and built by the local school district to serve eight school districts. Construction was financed by a state aid grant for regional programs.

Walter Jacoby

G. M. Harrington

Editor's note: This is the second of two articles describing the re-shaping of the vocational agriculture program in Connecticut. The first article appeared in the August, 1957, issue of *The Agr. Ed. Mag.*

Legislation Formulated

The Sub-committee on Legislation met and, following the principles of the whole committee and using the materials developed for the whole committee, outlined a set of objectives which legislation should achieve. These were:

1. To make vocational agriculture available in every community to youth interested in agriculture as a career, rather than to youth in only one-third of the major farm towns.

2. To provide staff and facilities which will make possible a sound, applied program rather than being restricted primarily to academic agriculture.

3. To provide facilities for an adequate farm mechanics program.

4. To provide for sufficient balance in staff and facilities to permit specialization as the individual needs of the pupil may require.

5. To provide a flexible educational program which will meet the needs of youth planning to go directly into farming, related agricultural occupations or to colleges of agriculture.

6. To provide for a committee of farm people to advise the local board of education with respect to the agricultural program.

7. To reduce unit costs.

8. To provide for local control of policy and administration so that the program may be more sensitive to community needs.

9. To provide state aid in such a manner that the financial responsibility of the town will be no greater than if the pupil had elected some other field of study.

10. To provide state aid for buildings in such a manner that there will be no financial burden on the town in receiving pupils from other towns.

11. To provide, in the American tradition of having the school a community center, a facility which can serve as a community agricultural center.

12. To provide for lump sum building aid, since a town should not be responsible for carrying in its own bonding program facilities also intended for use of students from other towns and communities.

13. To provide state aid for sending towns, operating their own high schools, so that there will be little increased burden in sending students to centers having vocational agriculture programs.

14. To provide state support for vocational agriculture programs for farmers and out-of-school youth so that such educational services will be available in all areas in which they are needed.

15. To provide an equitable distribution of federal funds for vocational agriculture regardless of the amount received by the state.

The sub-committee delegated to the consultants the actual task of writing the bill which would achieve the objectives set forth. The draft of the bill was then reviewed by the sub-committee, and then by the full committee.

The proposed legislation thus developed contained provisions for the following:

1. Local school districts may agree among themselves to have a regional vocational agriculture program.

2. Operational responsibility and authority rest with the board of education governing the high school of which the center is a part.

3. A committee of agriculturists with representation proportional to the number of farms in each district, and appointed by the cooperating boards of education, consults with the operating board on policy.

4. A lump sum capital grant is provided to cover the cost of building and equipping facilities, excluding site cost and interest charges.

5. An annual grant is provided by a simple formula to cover the amount by which necessary costs of vocational agriculture exceed the cost of other programs in the school.

6. The annual grant covers the total cost of vocational agriculture education for out-of-school youth and adults where this is planned as an integral part of the center's program.

7. Tuition charges to school districts sending pupils to the center are fixed at the actual cost to the operating district.

8. Those school districts maintaining their own high schools receive a partial tuition grant for pupils sent to centers in other districts.

9. All grant formulas are designed, within the limits of simple and economical accounting procedures, so that no school district is placed in the position of financial advantage or dis-

(Continued on page 56)

Re-Shaping of - - -

(Continued from page 55)

advantage in electing to participate in such a program.

There was already in existence a statute which provided that local boards of education must designate a school having a vocational agriculture program which any student may elect to attend, and the local board of education will receive some state aid for the costs of transporting such pupils[1]

Master Plan Developed

Simultaneously with the activity of developing the legislation, it was necessary for the consultants to analyze the needs of the state by geographic areas. This analysis was concerned with putting to use all of the research information which had so far been developed. The purposes were to determine potential student demand, locations of facilities, size of facilities, the number of facilities which would accomplish the objectives with a minimum expenditure, the staff needed, and the state appropriations which would be needed both in the coming session of the legislature and in future sessions. All of this information was combined into a master plan for the development of the state's vocational agriculture program.

One unique aspect of this development of a master plan contributed greatly to its effectiveness. Unlike most master plans, this one was not published nor was it released to the public in any form. At first thought this might seem to run contrary to present thinking in education which calls for wide dissemination of anything which might conceivably be called public information. However, the State Consulting Committee and the staff felt that the function of the master plan was to guide them in their thinking and in their activities. Since local determination had been heavily emphasized in the development of policy objectives, it was felt that dissemination of a state master plan might tend to dominate local thinking or at least to inhibit local initiative. The master plan was not so much a plan to be put into effect, but simply an outline guide for action which could be, and would be, revised in the light of local developments and other indicated needs for change. We might note in passing that subsequent experience showed this decision to be very well founded. We later found some local communities indisposed to act until they were assured that whatever might be in the master plan, the master plan would not prevail over decisions which were made by local groups.

[1] Copies of the actual legislation are available on request.

Program Presented

The State Consulting Committee, after it was satisfied that the proposal represented its own best thinking, moved on to the next step which proved to be highly significant. The committee felt that however much it might be agreed within itself, it was, after all, a small group looking at the state as a whole. To be assured that the program proposals were truly sound, a wider participation in the thinking was needed. The committee, accordingly, directed the consultants to represent it throughout the state, to form regional consulting committees to review the proposal and to make suggestions, to present the proposal to local boards of education for suggestions, to present the proposals to farm organizations for their suggestions, to present the proposals to citizen groups for the same purpose, and to present the proposals to groups of professional educators. The results of this field work were to be reported back to the State Consulting Committee. The State Consulting Committee could then decide what recommendations to make to the State Board of Education to meet its charge from the Commissioner of Education.

In doing the necessary field work, the same pattern was followed locally as had been followed on a state level. The regional committees which were formed represented only themselves, as had been the case with the state committee; and, where vocational agriculture departments existed, the vocational agriculture teachers acted as consultants to the regional committees. In areas where there were no vocational agriculture programs, the school administrators acted as consultants to the regional consulting committees. The state consultants traveled the state as representatives of the State Vocational Agriculture Consulting Committee and not as representatives of the State Board of Education or the State Department of Education. They met with all kinds of farm, citizen, and educational groups, presenting the preliminary report of the State Consulting Committee and answering questions. In most cases, this required more than one meeting. The usual pattern was a preliminary meeting in which the state consultants presented the state program, subsequent meetings in which the local groups examined their own situation and the possible effects of the state program, and a final meeting with the state consultants who receive the report to carry back to the State Consulting Committee.

After the reports were in from all the precincts, the State Consulting Committee made only one minor revision in the proposed program and voted to recommend the entire program to the State Board of Education. The State Board of Education praised the committee for its "bold and forward-looking approach" and reviewed the proposal very intensively and at considerable length. The Board then voted to approve the program as being educationally sound and directed the State Department of Education to present it to the major agricultural organizations to see if it met the needs of agriculture. In short, the State Board of Education agreed that this was a good educational program and if it could be shown that this is what agriculture needed and wanted, they would back it.

Following the State Board's action, the state consultants followed the same pattern that had been followed in the initial presentation of the State Consulting Committee's proposal to the people of the state. In their role as consultants to the State Consulting Committee, the consultants approached farm organizations with the State Board action. At this point a large number of agricultural organizations began to adopt resolutions in support of the program. It is significant to observe that most of these resolutions originated in the grass roots of the various organizations and did not come about as the result of any direct activity of the state consultants. In most cases, the state consultants were invited to present the program to meetings of farm organizations not because they had approached the farm organizations, but because members had introduced the resolutions into the organizations. The officers of the organizations invited the consultants in order that there would be someone present who would be in a position to provide more detailed

(Continued on page 57)

Re-Shaping of - - -

(Continued from page 56)

information and to answer any questions that might arise. Armed with resolutions representing almost all of the farm interests in the state, the State Board of Education introduced the bill into the legislature.

Legislative Action

The bill followed the usual routine course of a bill in the General Assembly. We do not know whether any significance should be attached to the fact that the legislature saw fit to refer the proposal to the Agriculture Committee rather than the Education Committee. At the time of the committee hearing, an exceptionally large number of people turned out to testify on behalf of the bill and to register in its favor. No opposition was experienced. The turnout represented official delegates of farm organizations of related agricultural groups, of interim committees, of boards of education, and of professional education groups. Many individual farmers and youth also appeared. Many people felt that the most outstanding presentation was made by the two official representatives of the Connecticut FFA Association. After the hearing, the committee called the state consultants into executive session to assist in rewriting the bill. The feeling was that the bill was too detailed and should be simplified, but the committee wanted to be sure that none of the essentials of its provisions were changed. It was in this session that the Joint Committee on Agriculture worked out the details of representation on regional consulting committees. The remaining revision simply took details out of the law and transferred much of the regulatory power from the statutes to the State Board of Education. This gave the State Board powers for which it had not been disposed to ask. In essence, the legislature wanted to establish policy and leave administrative regulation to the state agency concerned. The bill was passed by both houses and signed into law by the Governor on June 24, 1955.

The Connecticut Regional Vocational Agriculture Center Bill provided a structural and financial framework within which it was felt a program meeting Connecticut's needs could best be fitted. The real importance of the bill is that both the bill and the activities leading to its passage created a favorable environment within which an educational program could be improved and developed. This program development moved along concomitantly with the development of legislative policy. The legislation did not create, but it reflected, a new program of agricultural education adapted to modern needs. The legislation made it possible for a community to have such a program.

Curriculum Changes

As we turn to the other side of the Connecticut picture, due credit should again be given to the State Consulting Committee which in its earliest deliberations concerned itself more with over-all problems of curriculum than with state policy. It is probable that the committee never would have developed the legislation had it not first been convinced within itself that this action would promote an improved and modernized curriculum.

Individual and group undertakings played an important part in the steady progress of the programs. These activities centered around the comments and suggestions made by individual members of the State Consulting Committee and the Joint Committee itself. Planning had to be undertaken to formulate programs for the future. The activities were carried on in two major frameworks, namely, the Connecticut Vocational Agriculture Teachers Association and through in-service training programs offered by the College of Agriculture and the School of Education of the State University. Instructors were not only concerned about the professional aspects of in-service training, but were greatly concerned about their technical proficiency in view of curriculum changes necessitated by the times. The first major step stemmed from recognition that Connecticut agriculture was highly specialized and graduates of the program who go into farming would go into specialized types of farming. This indicated a need for curriculum reorganization to give opportunity for individual students to specialize in the area of major interest. Thus, the boy who wished to go into dairy work would spend a significant portion of his time on dairy work. One who wished to go into poultry would spend a substantial part of his time on poultry. The same would apply for other areas of agricultural specialization. This then required the construction of additional curriculum units for each area of specialization. Immediately evident was a need for technical in-service training of the staff in order that they would be prepared better to take care of these specialized needs.

It was also recognized that programs operated on a regional basis will be larger than programs meeting the needs of one local school district. Therefore, more students would be enrolled and all departments would be multiple teacher departments. This provides instructors the opportunity to become extremely competent in two or three phases of the program.

(Continued on page 58)

FFA is a vital part of a vocational agriculture program. A folding partition converts two classrooms to a large meeting room for FFA as well as for agricultural group meetings.

Local agriculturists felt a farm shop was needed which had space and equipment to work on farm machinery brought in from the field. In less than a month enthusiastic students and teachers had organized a bare shop wing into a functional unit.

Re-Shaping of - - -

(Continued from page 57)

Since students would be asked to make choices in regard to their special interest, it seemed necessary to spend a considerable amount of time exploring agriculture and the opportunities in agriculture whether they be in farming, related agricultural operations or the technical and professional aspects of agriculture. It appears logical that the exploratory aspects of the program should constitute the major emphasis in the curriculum at the ninth grade level. This would provide the student the opportunity to make a choice for or against an agricultural career. It would also provide the opportunity for a student to make a vocational start at the conclusion of the ninth grade, and also to select major areas of interest based on some real knowledge rather than on his experience on his uncle's farm.

Education Beyond High School Needed

It was also recognized that modern agriculture has become more and more technical, necessitating a level of education beyond that which was formerly adequate for success in farming. The changes which have occurred in agriculture have also given rise to a large number of opportunities in the related service occupations, and there is an acute shortage of agricultural scientists. It was felt that most agricultural occupations, including farming, will, in the future, require a level of knowledge and training which necessitate education beyond the high school. It was also felt that the program should be a vocational agriculture program and not a vocational farming program, since no other program in the high school now offers or is likely to offer orientation toward agricultural occupations. It is also true that, if one is to offer to pupils exploratory experiences in agriculture, there should be full opportunity for pupils to act upon those experiences and to move in the direction in which their interests have developed. The actual needed level of education in agriculture has changed considerably since the days of the passage of the Smith-Hughes Act and if the agriculture program is to perform a real vocational service, it must also move with the times. Curriculum was therefore planned for students who might elect to prepare for related agricultural occupations or who might elect to prepare for college with an agricultural objective. It should be noted that many of those who may elect college preparation as an objective in the vocational agriculture program may still have farming as a long range objective, but may wish to arrive at this through college preparation. On the other hand, the non-college oriented youth should not be blocked off from farming as a career. However, it is necessary to face reality and recognize that a vocational agriculture program ending with high school graduation cannot impart enough in the way of skills and knowledges to produce a really efficient farmer. For this reason, what has been traditionally called the Young Farmer Program but which we prefer to call the program for out-of-school youth, needed extensive revision to increase its intensity and the value of its application. In a sense, this is continued education for post-secondary students who are going to school on their own farms. The program had to be practical enough, relevant enough, and pitched at a high enough level so that it met the needs of those going directly from high school to farming and those who were going from the college of agriculture to farming. The young farmer program was evidently of such great importance that it justified 100 percent financial support from the state under the formula.

In-Service Training for Teachers

With a curriculum recognizing individual needs and offering special experiences in areas of specialization, special experiences for those who are college oriented, and special experiences for those who plan to enter related occupations, the teacher would be operating a nine-ring circus. Accordingly, it was necessary for the state teacher-trainer to stress appropriate teaching techniques in the formal in-service training programs, such as the use of small group techniques rather than total class techniques. At the same time this was picked up as a major emphasis for supervisory assistance and service rendered during visits to the classroom.

The area most common to all students of vocational agriculture—increased mechanization in all specialized areas of agriculture—was considered of prime importance in the vocational agriculture curriculum. The staff members realized this particular area had been sadly neglected in the past and felt the need for improving their own skills and techniques. In order to provide a sound in-service program in farm mechanics, they sought the assistance of A. H. Hollenberg of the U. S. Office of Education. Under his able direction a beginning was made in this particular area. The interest has been expressed in conducting additional farm mechanics workshops when more adequate facilities are available. It is hoped that further in-service programs will be provided using the facilities of one of the regional vocational agriculture centers. Demand for farm mechanics instruction has been expressed by every regional consulting committee, not only for high school youth but for out-of-school youth and adults.

Farm Experience for Non-Farm Boys

As is the case in many states, a goodly number of non-farm boys have expressed a genuine interest in vocational agriculture programs. Our research proved that it is necessary to accommodate this group in order to meet the replacement needs in farming, related fields, and in the professions. With the age of farmers in Connecticut being relatively high, there appears to be an insufficient supply of farm boys to meet the replacement needs. Accordingly, particular emphasis has been given to providing a vocational agriculture program that will provide farm experiences for the non-farm boys. Help in this direction came from the work of a committee of the North Atlantic Vocational Agriculture Conference which undertook the task of developing a suitable procedure and record book for farm work experience programs. This particular program has been well received by the farm groups in the state, and these groups are working very closely with the vocational agriculture instructors to provide opportunities for such experiences on the better farms in Connecticut. While we do not yet have sufficient data to draw any conclusions, one impression about non-farm youth has been rather striking because of its portent for the future of agriculture. We have been struck by an apparently strong interest in families which are well established in the industrial world. They would be in an excellent position to finance those of their children who wish to make a career of farming.

(Continued on page 60)

Teaching Aids- There are many kinds available

FRED V. MEINKE, Vo-Ag Instructor,
Beaver Dam, Wisconsin.

Fred V. Meinke

THE vocational agriculture instructor has the finest assortment of teaching aids to be found in the teaching field. Every farm in his community offers him an opportunity to use the best of teaching materials. Many of us, perhaps, are not making the fullest use of these aids.

If we are going to make vocational agriculture a practical course, we must make use of all of the teaching aids offered us right on the farm.

When we are studying livestock feeding, I find it very useful to take the class out on a few of the good farms in my community and study the feeding methods first hand. My boys have an opportunity to talk with the farmer about his feeding plan and to discuss mixtures with him. They then have a chance to compare their own feeds and feeding methods with his. This I think is a real teaching aid. Then too, it makes our classroom work far more interesting and is a real supplement to our text material.

Another aid I have found to be most valuable is the use of an actual situation to teach plow and seeder adjustment. Most of us have geared our teaching so that most of the work we are teaching in the classroom is taking place on the farm at that time. Therefore, when I want to use an aid to put across the proper adjustment of a plow, I go out on a farm where the boys can see the plow in operation. I do the same with the seeder or corn planter. These have proven real visual teaching aids. There are many, many more such opportunities, if only we take the opportunity to use them.

Thus far I have tried to point out the need for using teaching aids available outside of the classroom. Following are some suggested teaching aids I have found useful within the classroom.

The movie projector, properly used, can be one of the finest classroom aids. I think too many of us use the projector to entertain our students. We do not select our motion pictures wisely, and many times they have nothing to do with the subject being studied. The projector should be used only to supplement the subject being studied at the time. Our students should be properly prepared before the picture is shown so that they will know what to look for. There should also be a follow up after the picture has been shown to see if the students have gotten the necessary information. In some cases it might be beneficial to show the picture more than once. Yes, it takes much preparation if we are going to use visual aids properly.

Strip films and slides can be very valuable aids. We have a wonderful opportunity to make slides of good teaching material within our own communities. Slides of test plots and outstanding crops or animals can later serve as real teaching aids. Many things happen during the summer months when we don't have organized class work. If we find, at anytime in the year, things that will help us later in our teaching, all we need to do is photograph it and make a slide.

Charts too can be very helpful in the classroom. There are many fine charts available for almost any subject. A chart should be simple and to the point. We make many of the charts we need. I find that many of my students like to do such work for extra credit. By making our own charts we fit the information to our local situation. Charts help us to emphasize certain topics and help to make our discussion more interesting and worthwhile.

Specimens and models are two other very useful classroom aids. Whenever I find a disease or insect that will prove valuable in my teaching, I try to preserve it for future use. I think one of the most interesting displays I have in my classroom is of insects, diseases of animals and plants, and parasites of animals. These are of tremendous value when teaching about a particular disease, insect, or parasite. I find my students are always looking at the specimens in their spare time. These things help to create interest. All teaching aids can do this if properly used. One of the first requisites of good teaching is to create interest.

I hope that I have given information that will be of value to the inexperienced as well as the experienced teachers in our field. I think we should all evaluate our methods of teaching from time to time. Whenever we prepare a lesson, we should investigate all the teaching aids at our disposal and use them to advantage. □

Producing and - - -

(Continued from page 51)

Plan Sheets. Enterprise analyses were made and certain jobs assigned to, or chosen by, each teacher who made enough copies for every teacher in the area. These job plans served a purpose in regular vocational agriculture teaching, and there was a carry-over of their making and use to Institutional-On-Farm training for veterans.

Radio programs put on by chapters in the State through contests aroused interest which has continued.

During the 1940's and early 1950's there was special interest in the evaluation and rating of motion pictures and filmstrips for use in all-day, young farmer, and adult farmer classes. Also, for FFA chapter use, evaluations and ratings were published by teacher education personnel and supplied to all teachers.

West Virginia Vo-Ag News and Views, a monthly mimeograph and multigraph publication, lists new films, filmstrips, and slides available with their ratings by our Agricultural Education Subject Matter Specialist.

While commenting on the state professional publication, it might well be said that this is a splendid media through which teaching aids material can be prepared for, and called to the attention of, the teacher. Typical pages in the publication carry the following main heading and subheadings:

TEACHING AIDS

Book Reviews
New Bulletins
Films, Filmstrips, and Slides
Articles Well Worth Reading
New Publications (Commercial)

In addition to these pages being bound in the publication, they are duplicated and enclosed for use as supplements to job plans.

(Continued on page 61)

The Teacher of Agriculture as Thinker and Scholar

"The scholar is Man Thinking." — Ralph Waldo Emerson

H. M. HAMLIN, Teacher Education, University of Illinois.

H. M. Hamlin

WE view teachers of agriculture in many roles, as pedagogues, farmers, technicians, salesmen, counselors, administrators, clerks. We seldom conceive of them as scholars and thinkers, though these may be their basic roles, those in which they serve society best, and those most attractive to many considering the teaching of agriculture as a profession or already engaged in the profession. There is nothing inconsistent about being a practical teacher of agriculture *and* a scholarly thinker.

We have too often fallen into the habit of thought which Emerson attacked in his address, "The American Scholar," delivered at Harvard University in 1837. In spite of his warning, we have let certain types of professors in colleges and universities relegate to themselves the title of "scholar." We have continued to dissociate scholarship from action. We may well go back to Emerson for basic concepts of scholarship.

"Without action thought can never ripen into truth . . . Inaction is cowardice, but there can be no scholar without the heroic mind . . . When the mind is braced by labor and invention, the page of whatever book we read becomes luminous with manifold illusion. Every sentence is doubly significant . . . Only so much do I know as I have lived. Instantly we know whose words are loaded with life and whose not . . . The scholar loses no hour which the man lives."

We misconceive the functions of teachers of agriculture when we organize their activities so that there is no time for scholarship or thought. We need to be alarmed when we hear teachers of agriculture saying that they no longer have time to read, or think, or share the conversations of the thoughtful people of their communities. Any arrangement which produces these results cheats the teachers and those they serve.

Every teacher of agriculture faces in his community a complex set of conditions which must be studied and interpreted before there can be intelligent action. He needs as background for his interpretation the best that has been said and thought since the world began. He needs solitude when he can search for the meaning of what he has seen and heard and felt. He needs interplay with other scholarly minds who have also contemplated what he has seen and heard and felt.

Perhaps the most useful schoolmen the world has known have been those scholars and men of action who have founded and maintained the Danish system of folk and agricultural schools. These institutions came into being in the decade, 1880 to 1890, when the farmers of Denmark were undergoing a severe economic depression. The founders of these schools realized that the welfare of farm people did not depend alone upon agricultural technology, but depended also upon a realization of their interdependence with other peoples and upon their ability to utilize all of the cultural resources which civilization has evolved. Their emphasis was upon the Man on the farm, rather than the farmer. They acquainted him with the history, geography, and language of his kind; with science, music, art, and religion; and with agricultural technology in proper balance. We are all aware that Danish farmers have become outstanding among the farmers of the world, but it is more important that they have demonstrated what human life on the farms may be. The kind of educational development which has occurred in Denmark could never have been engineered by men interested only in agricultural subject-matter and methods of imparting it to others. It could only be produced by men broad in their scholarship, who related their scholarly pursuits to the ongoing life about them.

The scholars we need as teachers of agriculture are students of all that affects their work and the people they serve. They are as likely to gain ideas relevant to their tasks from reading history, economics, psychology, and political science as they are from reading about agriculture or education.

We have already tried to go further than we can go in making teachers of agriculture purveyors of small bits of technical information and teachers of small skills to an ever-growing constituency. The end of the road we have been travelling is a dead end. We shall, sooner or later, have to retrace our steps. When we find eventually that we must reconceive the task of a teacher of agriculture, we should give a high priority to his function as thinker and scholar. If this function is lost, all else that the teacher of agriculture does becomes as "sounding brass and tinkling cymbal." □

Re-Shaping of - - -

(Continued from page 58)

Facilities Designed for Program

With some understanding of the nature of the proposed program and the resulting curriculum, plans can be laid for the design of facilities to accommodate such programs. A committee, with representation from the School of Education and the College of Agriculture of the State University and the State Department of Education, was formed for the purpose of creating a model that could be used by planning groups throughout the state. This model emphasized some of the techniques that can be used in developing multiple-purpose facilities in terms of the program to be offered. May we point out that the adoption of such a model by any local group tends to define the kind of curriculum and program to be offered and may not meet the specific needs as identified by their local advisory groups. The experience of developing such a model or plan is a good learning experience for those in the field. However, we learned, through hard experience, that the model should not be available to groups actually planning facilities during the initial phases of planning. There is a tendency to adopt a well-designed plan which comes close to meeting needs rather

(Continued on page 66)

Teaching Aid Found in - - -

State Land Judging Contest

N. C. NICHOLSON, Vo-Ag Instructor,
Hartford, Wisconsin.

Earle Vivian (right), Vo-Ag Instructor at Slinger, Wisconsin, presents plaque to members of the Kewaskum Land Judging Team. Left to right—Orville Behnke (coach and Vo-Ag Instructor), Roger Dodke, Maurice Gahlman, Paul Schaub, and Harvey Weigand. (Photo by Nicholson)

The Wisconsin state land judging contest was held at Slinger on Tuesday Oct. 23. There were sixteen schools from eastern and central Wisconsin participating in the contest. The interest in land judging is growing as evidenced by the increasing number of Vo-Ag departments now taking part. Land judging is a new form of contest that has been inaugurated during the past few years. Actually this type of contest is probably the most educational and valuable to the student of the many different types of contests that we now have. It offers training in the fundamentals of selecting land and putting that land to its proper use. The student who learns the characteristics of the topsoil, its depth and color, the subsoil, permeability, texture and degree of erosion can with confidence use that knowledge to make better use of land. This knowledge will be valuable to them in the purchase of a farm and in the proper use of the land on that farm. Yes, Land Judging certainly should play a part in every Vo-Ag department in the country. What is more fundamental to good agriculture and to the people of a community and nation that depend on the soil to grow crops used to feed our livestock and our people?

At Slinger, each team was made up of four students. There were four holes to judge. The holes were about 4 feet deep, 3 feet wide and about five feet long. This size hole made it nice for the students to clearly see the soil profile without too much crowding. Members of the Soil Conservation Service were the official judges for the contest.

Before the contest started, members of the Soil Conservation Service devoted considerable time to an explanation of the score card and other recommended soil conservation practices. Test holes were used for this purpose. This part of the program was very educational. More Vo-Ag departments should try to utilize the services of these soil experts.

The winning team was Kewaskum with a score of 1335 points out of a possible 1600. Wisconsin Dells was second, and Slinger 3rd. Three boys tied for high score in the contest. They were Gene Klicko and Loren Lewis of Wisconsin Dells and Henry Tachik from Coleman. All had a score of 350 points out of a possible 400. □

Producing and - - -

(Continued from page 59)

That which is new in agriculture and agricultural education also is included in the professional publication in so far as possible. Especially, "that which works for a given teacher," is solicited and printed.

Vocational Agriculture and FFA letter series, with timely enclosures prepared and sent by State Supervisory personnel, are great aids to teachers.

Special publication on phases of all-day, young farmer, adult farmer, and FFA are valuable aids to teachers.

Publications prepared and issued in cooperation with, or jointly by, Vocational Guidance and Vocational Agriculture, or Agricultural Education folk, certainly aid teachers in agriculture.

One of the most recent developments by our Subject Matter Specialist in teacher training is the Source Unit. This concise "package" on a given topic is meeting with favor.

Brief writings on Problems and Theses done by graduate students aid our teachers in some measure.

Current lists of publications available by the State Experiment Station and the State Extension Service aid teachers in keeping their reference lists up-to-date.

Lists and evaluations of publications from surrounding states aid in teaching certain enterprises.

Mailing lists of vocational agriculture teachers, properly placed by State Agricultural Education and Vocational Agriculture office personnel, bring valuable teaching aids from folk in business, industry, homemaking, and the professions, as well as from the field of agriculture.

Principal stimuli for what to supply comes from a committee of vocational agriculture teachers meeting with the Agricultural Education Subject Matter Specialist at the Annual Vo-Ag Teachers' Conference, and from the members of the State Program and Policy Committee for Vocational Agriculture. Suggestions of these teacher committees, the State Supervisory staff, and the Teacher Education staff bring much cooperation by way of teaching aids on the part of the Experiment Station and Extension Service.

The idea in preparing and distributing teaching aids is not to hand the teacher and student a finished or ready made package which solves his problems for him, but rather, to point up materials which are on the subject and from which he can determine the answers to his problems in terms of the best known practices at the present time. □

Instruction in Agriculture in Non-Land-Grant Colleges In the United States

(Student Personnel Services, Staff, Laboratory Farms and Facilities and Regional Services)*

WILLIAM F. BRAZZIEL, JR., Teacher Education, Southern University, Louisiana.

W. F. Brazziel, Jr.

IN addition to the data concerning the nature of the institutions and their programs (see footnote), a study of the guidance services offered each student, a study of the staff and a study of the laboratory farms and facilities was made in order to present a comprehensive picture of the status of the programs of agriculture in non-land-grant colleges. A study of the programs of service offered by the departments to their constituency was also included.

The Student Personnel Services

In addition to the catalogue study and to provide more evidence that the essential guidance services were being provided for in these institutions, a supplementary questionnaire was used to gather data. The following areas seemed significant from the author's point of view, to a comprehensive program of student personnel and guidance services.

1. Interpretation of institutional objectives to the constituency
2. Admitting the students in cooperation with secondary schools
3. The counseling services
4. Mental and physical health services
5. The housing programs
6. Student activities
7. Financial aid and part-time employment
8. Evaluation of program through research

Institutional Philosophy

The institutions generally believed that the eight aspects of the program outlined in the preceding paragraph were instrumental for the complete development of the student. An average of 54 institutions indicated the optimum, or 3 per cent rating over the eight aspects. The average ratings of each aspect on the scale (optimum rating 3) are included in Table 1.

Table 1. Summary Ratings of the Student Personnel and Guidance Services Programs

Aspects of Program	*Average Rating*
Student activities	2.22
Evaluation	2.19
Health services	2.06
Student aid	2.05
Housing	2.01
Counseling	1.99
Interpreting institutional objectives to the constituency	1.84
The program for student admissions	1.82
Average	2.08

The data seem to indicate that most directors of the programs of agriculture in NLGA institutions were cognizant of the needs in this area. They also indicate that these directors were aware of the efforts of the institutions to meet these needs. This is the strong point in small college education. Agriculture people in these colleges can do an outstanding job.

Specific weak and strong points can be identified in the comparison of the ratings in each area of the program. A more comprehensive analysis is given in the comparison table (Table 2) which includes summary data from all areas. It gives the per cent of institutions rating the aspect on each point of the scale.

The needs for improvements are *now* readily discernable. They are as follows: interpreting objectives, admission, counseling, and housing.

Staff

There were 363 people employed as staff in the 61 institutions studied. There were 28 institutions, or 46 per cent which included less than three people as staff. The range 1-9 people included 52 institutions, or 86 per cent. The over-all range was 1-49 people.

Degrees and Degree Programs in Progress

There were 204 people, or 56 per cent who held the Master's degree; 108 people, or 30 per cent held the Ph.D. degree; and 51 people, or 14 per cent who held the Bachelor's degree.

A total of 29 instructors located in 22 institutions had degree programs in progress. This represented 10 per cent of the total number (288) analyzed which held degrees below the doctorate.

(Continued on page 63)

Table 2. Average Ratings by Institutions on Aspects of Student Personnel Programs*

Aspects of the Program	*Scale of Ratings and Per Cent of Institutions Reporting In Each Scale*			
	0	1	2	3
Student activities	4.1	16.1	23.3	54.4
Health services	10.7	13.5	27.7	47.8
The program for student admissions	24.4	32.0	24.8	41.6
Evaluation	0.3	18.2	40.0	39.3
Housing	22.9	21.6	34.8	39.1
Counseling	27.4	8.6	29.9	36.8
Interpreting institutional objectives to the constituency	20.2	25.2	32.4	33.4
Student aid	2.1	23.2	26.0	24.3
Average	13.9	19.3	29.9	39.7

* Scale: 0 — Practice or service not in effect
1 — Practice or service partially in effect
2 — Practice or service substantially in effect
3 — Practice or service realized to optimal degree

* The second of two reports, the first of which included the nature of the institutions and the technical and general education programs. The first report appeared in the August, 1957, issue of *The Agr. Ed. Mag.*

Instruction in - - -

(Continued from page 62)

Staff Rank

The most universal rank was instructor, 54 per cent. This group was followed by assistant professor, 24 per cent; associate professor, 19 per cent; and professor, 23 per cent.

The Length of the Contract Year

The average length of the contract year was 11 months. The most universal, 74 per cent of the institutions, was 12 months.

Publications by Staff

There were only 12 (11 per cent) staff members (in seven colleges) who had published a journal article, books, or paper in the last five years.

Staff Load

The average load for the staff was 11 semester hours. The range was 6-15 hours.

Core and Inter-disciplinary Instruction by the Staff

There were 32 instructors in 21 institutions who taught 58 core or inter-disciplinary courses in addition to the regular program of instruction in agriculture. These courses included 13 core courses and 35 inter-disciplinary courses. No universal pattern was in evidence.

Load of Staff with Responsibility for Management of a Laboratory Farm Enterprise

There were 62 staff members, or 18 per cent who had the responsibility for the management of a laboratory farm enterprise at 32 institutions. The average load for this group was 9 but included a wide variation. The range was 3-15 semester hours and 47 of these instructors were included in the range 10-13 semester hours.

The Student-Teacher Ratio

The student-teacher ratio range, 0-39:1, included 59 per cent of the group studied. There were 58 per cent of the instructors who rendered core and inter-disciplinary instruction included in this group.

Salaries

On a rating scale including low, below average, average, above average and high ratings, the institutions were requested to rate their salary schedules with national norms. The most universal ratings were below average (16) and average (37). No institution staffs rated themselves high.

Encouragement of Staff to Further Study

The institutions were requested to rate themselves on the four-point scale (interpreted earlier) as concerned a three point program for encouragement of staff to further study. The aspects and their average ratings are included in the following table.

Table 3. The Average Ratings of Aspects for the Encouragement of the Staffs of the Programs to Further Study

Aspects of the Program	*Range in Ratings*	*Average Ratings*
Degree requirements for appointment to rank	2-3	2.35
Financial support to staff members on leave for study	0-3	1.66
Option to return salary to institution in lieu of returning to service	0-3	1.17
Average		2.09

This over-all average rating is commendable. Especially commendable is the number (27) of institutions which afforded support for leave for study.

Laboratory Farms and Facilities

The study concerned itself with presence and size of laboratory farms and the extent of the following enterprises as measured by animal units of dairy, swine, beef and poultry. The study was also concerned with the presence of the following laboratories: Agronomy, dairy, meats, agricultural bio-chemistry, poultry, and greenhouses. The comparability of acreages from region to region was not considered feasible. The farms, however, were spread quite evenly over a range of from 100 to 3,825 acres. There were three colleges which taught agriculture without a farm.

All laboratories were maintained by 17 colleges (out of 47 reporting) with agronomy laboratories being the most universal (34 colleges).

The Regional Services Program

The most heartening evidence which emerged from study in this area seemed to have been the overwhelming administrative philosophy toward promotion of the regional services. The range of ratings for the five aspects of the program on the three-point scale was 2.65-2.85. The average rating was 2.75. Low budgets and high teacher loads were cited in several instances as curtailment for the programs. Table 4 gives a comparison of the ratings. The stronger areas include reciprocity in aid and cooperation with other agencies and the maintenance of vocational and cultural balance. There were 24 per cent and 78 per cent respectively of the institutions which rated the optimal development here. Weak areas include formal and informal programs for instruction for adults and young adults; 77 per cent and 61 per cent respectively reported a complete absence of such service.

Transfer of Credit to Land-Grant Colleges and Admission to Graduate Schools

Credit could be transferred to the land-grant undergraduate colleges in 25 of the 26 states where non-land-grant colleges are found. There were four types of transfer policies for transfer of credit. They were: acceptance of credit without reservations, acceptance of two or three years of credit and acceptance of credit by examination. There were 32 institutions which had three years of credit accepted by the land-grant colleges in the state in which they were located. These institutions were located in eight states.

There were 15 institutions located in 10 states which had credits accepted without reservations. These 47 institutions located in 18 states reported the majority or 72 per cent of the 65 institutions considered and the majority or 70 per cent of the 26 states in which they were located.

Types of Admission Policies to Graduate Schools

NLGA college graduates were admitted to the land-grant college graduate schools for the study in agriculture in 31 of the 34 schools which stated their policies in letter form at the request of the author. There were three types of admission policies. They were admission without reservation,

(Continued on page 66)

A survey of - - -

The Use of Farm Periodicals in Teaching

MERWIN STEARNS, Vo-Ag Instructor,
Osborne, Kansas.

The purpose of the survey of the Use of Farm Periodicals in Teaching Vocational Agriculture in Kansas was to ascertain the number of vocational agriculture departments in Kansas having farm periodical libraries and the use made of periodicals included in such libraries. Other questions included were the patterns for using the periodicals in teaching, educational value derived, where the periodicals were kept, whether or not they were used by other high school departments, and the amount of money budgeted and spent for such supplemental instructional material.

Modern science and industry are making rapid changes in improved farm equipment; in new methods for control of weeds, insects and diseases; in improved crops and feeding methods; in soil treatments; and in household conveniences which necessitate new and improved methods of management. Some of these changes and improvements have been so rapid that it appears that farm periodicals have an important place in teaching Vocational Agriculture since they provide up-to-date material concerning these new discoveries.

The seasonal and up-to-date information in farm periodicals challenge the interest of students in Vocational Agriculture. Many farm periodicals are including excellent information on farm problems pertinent to the area in which their subscribers live.

A copy of the survey was sent to 191 vocational agriculture departments in Kansas and results were tabulated on the basis of 154 surveys returned.

The results of this survey show that ninety-five per cent of the Kansas Vocational Agriculture department classrooms have a reference library of farm periodicals.

One-half of Kansas vocational agriculture instructors have definite budgets for agriculture literature; in addition, 39 per cent have unlimited budgets, with 85 per cent of all teachers considering their budgets adequate.

A budget of $25.00 to $27.00 for farm periodicals proved satisfactory in most departments.

Oral reports by students were preferred to written reports with students giving three to five minute reports monthly or every six weeks.

Nearly two-thirds of the Kansas instructors said the use of farm periodicals in teaching does not materially reduce the use of agricultural bulletins, circulars, text and reference books.

The vocational agriculture teachers gave the following reasons in justifying the use of farm periodicals in teaching: contain new developments and indicate trends in agriculture; arouse and develop interest; provide timely and seasonal material; well illustrated with valuable teaching aids; develop and stimulate habit of reading publications; acquaint students with publications; assist in developing the ability to express ideas through oral reports; broaden students' concept of agriculture; assist in market studies; inform students as to what successful farmers are doing; and give students experience in evaluating articles.

The Kansas vocational agriculture instructors favored the filing of farm periodicals in the Vocational Agriculture classroom. Classroom libraries make it possible for the instructor to have closer supervision in the instructional use of farm periodicals.

Often farm periodicals contain articles of value which are timeless, that is, they are valuable for years. This poses a problem of storage. The system of filing articles found in farm periodicals varied in the schools reporting. The filing of periodicals for one year in racks or shelves followed by clipping important articles from the publications and filing them in a scrap book, notebook, or filing cabinet, seems to be the standard procedure.

An average of 22 farm periodicals were listed in Kansas departments answering the questionnaire.

In budgeting for the farm periodical library, it is of importance to know the amount of space which is to be available for the periodical library.

Kansas vocational agriculture instructors are making extensive use of farm periodicals in their teaching procedures and consider them to be an excellent supplementary reference source. □

Bald Knob Portrays F F A Activities with Local Movie

JUSTIN RICHARDSON, Vo-Ag Instructor,
Bald Knob, Arkansas.

Bald Knob FFA Chapter prepared a 16 mm. colored film of about 16 or 17 minutes in length. The film consists of the FFA projects that the boys were carrying in 1956 and some of the school activities in which the FFA members participated. The film starts with the registration of the boys in the 9th grade, in the registration office, and goes through to some of the boys' graduation. It shows their participation in county and state livestock shows, school activities and cooperative programs, FFA chapter programs of raising money to finance the chapter, the receiving of awards, and some adult educational meetings.

The film was designed to show as nearly as possible a cross section of the vocational agriculture program and especially the FFA in the Bald Knob High School. The film was taken by the vocational agriculture instructor and a math teacher in the Bald Knob High School, with a camera belonging to the Bald Knob High School. The pictures were taken as the teacher made his supervised farming program visitation to the boys' home farms. It was prepared for the purpose of letting the other members of the FFA chapter see and become acquainted with the program as a whole, and to show the work being done by other members of the chap-

(Continued on page 68)

What Happens to Your Publications?

HOWARD L. MILLER, Research Fellow,
Department of Agricultural Education,
The Ohio State University.

The author demonstrates (on right) an all-too-frequent "file" for agricultural information. He spent ten years as a teacher of vocational agriculture and a county extension worker. January 1, 1957, he accepted a fellowship from the National Project in Agricultural Communications to conduct research on "Investigation of a Unique Coding System for Agricultural Publications." The study is supervised by the Department of Agricultural Education at Ohio State University under the direction of Dr. Ralph J. Woodin.

Bulletins, pamphlets, circulars, teaching aids, reference materials—what becomes of them? File 13? Stack three? The middle drawer? Under "your" system? Or do they find a well-identified location where you, a co-worker, a student, or an office secretary can readily find them for use?

Publications are printed to be read. As a teacher, or an extension worker, dozens of pages of information come across your desk each year. Obviously enough, information which can't be located finds no use. Publications vary, but serve common purposes in the field of agriculture. Teachers and extension workers have them in reference files. Quantities find use in classroom teaching, while every county extension service office maintains a supply for distribution. However, there seems to be no common filing system in use. Preliminary investigations show that bulletins are coded and filed by number, alphabetically, by subject matter, department, author, area, project, under decimal system, letter designation—to mention only a few. Filing systems have been developed by the Extension Service in more than twenty states. An equal number of state divisions of vocational agriculture have evolved some type of filing guide.

"Wouldn't it be helpful," some educators have queried, "if there was a single, simplified system to code all agricultural publications irrespective of publisher, agency or author?" A great many people think it would be. First, as an aid in filing; second, to enable more complete reference files; third, as an aid to exchange of publications between states.

The Committee on Professional Relations, Agricultural Section, American Vocational Association, recognizing some of the merits of a uniform coding system, made a proposal to the National Project in Agricultural Communications. "Suppose we find out" they said, "what might be done to investigate a coding system for bulletins and other information in the field of Agriculture."

N.P.A.C., which is headquartered at Michigan State University, lent a sympathetic ear. In 1955, after polling a dozen states to determine interest, the communications research project assembled a group of leaders at Ohio State to consider some possibilities. Representatives of vocational agriculture, The Extension Service, U.S.D.A library, professional librarians and N.P.A.C. agreed there was definite potential. Among other things, the committee proposed a research project with a possible combination on a graduate program.

Such a project was outlined by Ohio State's Department of Agricultural Education, and N.P.A.C. agreed to finance a fellowship for a preliminary study. The investigation got under way late in 1956. Target date for completion of the first stage of the research, finding out what was being done in the field, was set for the end of the current year. All investigation and consideration was to deal only with agricultural subject matter, not with professional or program materials.

The first approach was to State Vocational Agriculture and Extension Service directors. Each state was asked to return: (1) a copy of any filing or coding system for agricultural publications, and (2) a list of publications issued by the respective agency in agricultural subject matter.

The findings verified preliminary investigations. Approximately half the states have developed some coding system in vocational agriculture, the Extension Service, or both. No states apparently use a single method interchangeable between agencies. Filing guides range from single-page general outlines to thirty-page volumes of a complete decimal system. Publications are designated by number, letter, decimal, subject, symbol, alphabetically, or other category—all designed to have a "place" for the material.

Two kinds of questions provide further guidance for the study. First, might there be a common denominator among all systems that could serve the entire field of agriculture? For instance, what about a single code for Dairy Cattle Production, another for Alfalfa, Horticultural Insect Control or Farm Machinery? Whether a bulletin, leaflet or circular, should all publications carry a subject classification and uniform designation regardless of publisher?

Secondly, might there be more interchange of information between states? Would these materials be useful in reference files? Would it add to a resource of information? Would publications be easier to secure if all publishers listed them under the same headings and coded them alike? Answers to these questions might well be the outcome of some uniform classification.

For the moment, this investigation will move ahead to discover a common denominator, if any, for coding and filing agricultural publications. Step two will be the proposal of some trial systems for field evaluation. After a rather critical look at the study, an attempt will be made to develop a

(Continued on page 66)

Re-Shaping of - - -

(Continued from page 60)

than developing from the basics one that actually meets the needs.

The Middletown Program

The first regional vocational agriculture center under the new Connecticut program opened this school year at Woodrow Wilson High School in Middletown. This center was in operation a year after its application had been finally approved by the State Board of Education. Where there had been 14 students from 3 towns, there are now 55 students from 7 towns. Some of these students have farming as an objective, others are pointed toward related occupations, and a few wish to find their life's work as professional agricultural scientists. Some of the students have their own farm enterprises and some are in the farm placement program. The former Department had one teacher; the new center has three teachers, each with specialized interests. This makes more effective the curriculum which is composed both of core units and of specialized units. All of the students enrolled are taking four high school units in addition to agriculture. For some students these four units outside of agriculture are in the college preparatory program; other students carry the general high school curriculum. The teaching staff is working intensively with the regional consulting committee and with the agricultural extension service in hammering out local policy and program for out-of-school youth and adults. This program is expected to be in operation before the end of the school year.

The program is housed in a separate unit a few yards away from the remainder of the high school. It contains a shop, laboratory, greenhouse, agricultural library, and two classrooms divided by a folding partition so that they can be converted into a large meeting room. This unit has already become the agricultural center of the county. On occasion, one may find as many as three meetings scheduled in the center for the same evening.

The total Middletown program exemplifies what state policy was intended to accomplish. Credit for the strong program lies in the local community and not with a state agency. The success of the program is to be attributed to the enthusiasm and hard work of the local superintendent of schools, the local high school principal, the local guidance director, and the members of the local Board of Education together with their counterparts in the seven other participating school districts, to say nothing of the work of the vocational agriculture staff, the regional consulting committee, the building committee, the mayor, and the agricultural extension personnel in the county. It is truly a local program.[2]

The success of the Middletown program has been convincing evidence to other school districts. A number of applications have been made for regional centers and ten have received preliminary approval of the State Board of Education. □

[2] A brochure prepared by the authors describing facilities and program at the Middletown Center is available from the State Department of Education, Hartford.

What Happens - - -

(Continued from page 65)

final form, subject to revision, which might be adaptable to state situations. Suggestions, reactions, ideas and criticism are welcome at any time and can be addressed to the Department of Agricultural Education at Ohio State University. □

A major victory in control of animal disease through research is evidenced by the fact that the incidence of tuberculosis in cattle stood at 4 per cent in 1922 but was reduced to 0.6 per cent by 1935, notes a new report of the Twentieth Century Fund. Another example is the advances in dealing with hog cholera, which has largely been brought under control whereas losses from this disease in former years ran as high as 6 million head valued at as much as $65 million.

Instruction in - - -

(Continued from page 63)

on the basis of the land-grant college policy in the state where the non-land-grant college in question was located and admission on approval of the academic department in which the candidate wished to concentrate his study.

The most universal policy was admission without reservation. There were 22 land-grant institutions, or 63 per cent which admitted non-land-grant college agriculture graduates on this basis.

Projections

Non-land-grant agriculture must, in the very near future, review its programs and formulate prospecti in keeping with a regional college concept and in collaboration with other agencies of agricultural instruction in the several commonwealths. It must revise its curricula and base it upon studies of the needs of its constituency making certain that a truly liberal education is being afforded its students and that a true service is being afforded its regional society.

In conclusion it would appear to the writer that nothing can compensate for teachers who are live, human beings, aware of the habits and attitudes of older and younger adolescents, able to mobilize and focus the emotional and intellectual energies of the student, well experienced in their teaching fields and ever growing in the knowledge and enthusiasm for the acquisition of more. A regional college which apes a university does no service to the university or to itself. It is precisely because regional colleges can do for the student what the university can never hope to do that they were initiated. They perform a valuable service in bringing higher education, precedent to advanced specialization and to adult living within the reach of many who can profit from it. □

Table 4. An Analysis of the Programs of Regional Services Offered by NLGAC

Aspects of the Program	*Scale of Rating and Per Cent Of Institutions Reporting in Each Scale*			
	0	1	2	3
Efforts to maintain vocational and cultural balance	0.0	0.0	22.0	78.0
Reciprocity in aid and cooperation	25.6	10.3	27.1	24.4
Programs for formal adult and young adult instruction	77.1	8.3	5.2	8.2
Programs for informal adult and young adult instruction	61.0	15.3	21.8	6.3
Ascertaining educational needs of the community	55.0	15.8	20.1	5.3
Average (40 Reporting)	63.7	10.3	19.4	24.2

It is a good idea to - - -

Make Those 2" x 2" Slides Yourself

GERALD R. FULLER and FREDERICK K. T. TOM*
Teacher Education, Cornell University.

Gerald R. Fuller

Frederick K. T. Tom

How many good charts, pictures, diagrams and other printed materials have you not used because they were too small to be seen by your class? How often have you wished you had these same materials in slide form so you could project them on a screen? Here is an easy way to produce your own 2" by 2" black and white slides using inexpensive home-built equipment.

Constructing Home-made Equipment

Both the camera and its stand can be built of scrap lumber easily obtainable in any Vo-Ag shop. The camera may be constructed as shown in the accompanying photographs. The sides are of ¾" pine while the top and bottom are of ¾" fiberboard. The overall dimensions of the camera box are 2½" x 3" x 3¾". Cut an opening 1" x 1½" in the top piece. It is over this opening that the film will be placed in the picture taking process. Obtain three wooden strips to serve as registers to position the film in place when the camera is in use. In the center of the bottom piece drill a hole, just large enough to allow the base of the tripod magnifier (which is to serve as the camera lens) to fit snugly. Fasten all the pieces together with nails or screws and some glue to form the camera box.

Now insert the magnifier (costs about $1.25) into the hole provided. Since the lens itself is too large, being about ¾" in diameter, a diaphragm made of opaque material is needed to cover the lens. Through the center of the diaphragm leave a clear hole about 1/16" in diameter. This is large enough to allow sufficient light to reach the film in the picture taking process. A rubber band looped through four evenly spaced notches in the rim of the lens holder keeps the diaphragm in place. A piece of ground glass to fit over the top opening completes the camera. If you care to, you can make your own ground glass by placing some valve grinding compound between two pieces of glass and rubbing them together for a few minutes.

To hold the camera steady, a stand is needed. A stand that can be adjusted for vertical and horizontal use is preferred. With the camera and stand depicted, and using both of the lenses with which the tripod magnifier is equipped, we were able to copy pictures ranging from approximately ¾" x 1¼" to 1" x 1½". Using only one lens, pictures ranging from 3½" x 5" to 8" x 12" could be copied. However, by placing cardboard washers between the face of the lens holder and the lens (in effect moving the lens closer to the film) materials up to 4½ ft. x 7 ft. could be copied. For some of the large pictures, the camera should be tilted horizontally and the picture placed against a wall. Well-

(Continued on page 68)

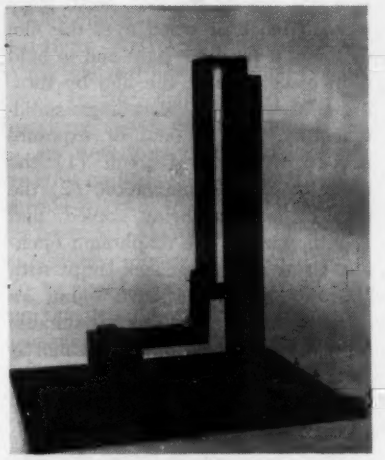


Fig. 1. Homemade camera for copying materials for use as 2" x 2" black and white slides, adjusted to minimum height.

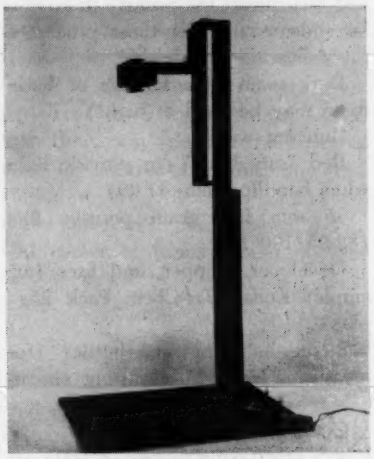


Fig. 2. Homemade camera adjusted to maximum height.

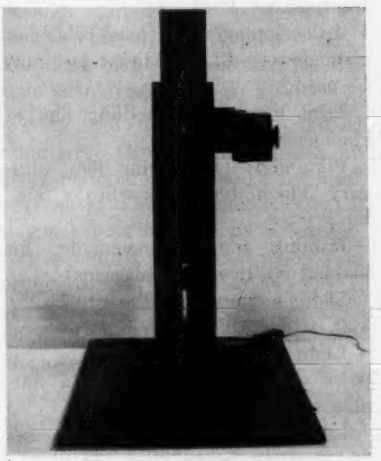


Fig. 3. Homemade camera adjusted for copying large materials placed against a wall.

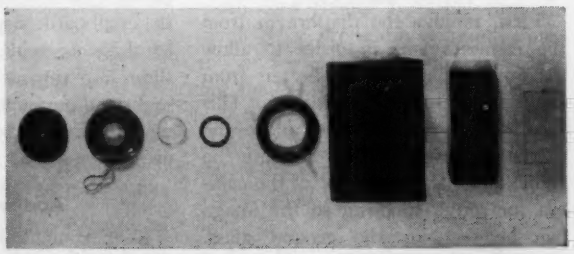


Fig. 4. Parts of the homemade camera. Left to right: ground glass, wood block, box, tripod magnifier base, washer to hold lens in place, lens, lens holder with rubber band for holding diaphragm, diaphragm.

* Mr. Fuller was a graduate assistant in Agricultural Education at the time the article was written. He is now Vo-Ag Instructor at Lisbon Central School, New York. Mr. Tom is Assistant Professor of Rural Education. The authors acknowledge the assistance of Professor Philip Johnson of Cornell University in providing the ideas upon which this article is based.

Make those - - -

(Continued from page 67)

placed stove bolts and wing nuts make adjustments easy.

Other Materials Needed

After you have constructed the camera and stand, the remaining processes are easy. All you need to do is (1) take a picture of the material you want, (2) develop the film to obtain a negative, (3) make a positive transparency from the negative, and (4) mount the positive in a regular slide mount. For these processes, the following are needed:

Dark room (the kitchen or bathroom may be used at night)

Running water

Red "safe light" (to provide light when handling film. $1.00)

35 mm fine grain positive film ($2.95/100 ft.)

Developer, stopper, and fixer (example: Kodak Tri-Chem Pack 25¢/pkg.)

8 oz. baby nursing bottles (for measuring water and storing chemicals @5¢)

Corks (for bottles @ 1¢)

Lights (for taking picture, 4 100-watt bulbs)

7-watt bulb (for printing positive transparency 25¢)

4 developing trays (hard rubber or enameled @ $1.05; Mason jars may be used)

Print tongs (for handling film in chemicals 35¢)

Film clips (for drying film, ordinary "Pinch" type clips will do, 50¢/box)

Printing frame (homemade, for making positive transparencies)

Slide mounts (cardboard $1.25/100, glass $2.95/100)

Light-tight box (for storing cut strips of film—homemade, or a suitable container will do)

Lens tissues (for cleaning lenses and printing frame glass 15¢/pkg.)

Lintless cotton gloves (for handling film 30¢/pr.)

Taking the Picture

First, remove the diaphragm from the camera's lens in order to allow maximum light to be reflected from the material to the ground glass. This facilitates focusing. Then, place the picture you wish to copy beneath the camera. Adjust the height of the camera for rough focusing so the image can be seen on the ground glass. Final focusing is done by threading the lens holder in or out. Focusing will be made easier if you use a hand magnifier, or your "second" lens of the tripod magnifier (if available). Although the edges of the image may appear fuzzy (because of the curvature of the lens), the center of the image should be in sharp focus. When this has been accomplished, replace the diaphragm, remove the ground glass, and turn off all the lights except the red safe light. Then place a strip of film, cut about 2½" long, over the opening of the camera with the emulsion side toward the lens. Next, place a small block of wood over the film to shield it from the light and to hold it in place. Expose the film by turning on the four 100-watt lamps simultaneously. The amount of exposure needed will depend upon (1) the intensity of the illumination, (2) the kind of material being copied, and (3) the size of the diaphragm opening. Using four gooseneck lamps with 100-watt bulbs, we have found an exposure of 20 to 60 seconds suitable for most materials. Since the film is inexpensive, one can experiment at low cost to determine optimum exposure for his own conditions.

After exposure, develop the film according to directions which come with the chemicals. The film should now be rinsed in running water, the excess water removed to prevent spotting, and the film hung up to dry.

The next step in producing a slide is the making of a "positive." This can be done as follows: Place a piece of unexposed film over the developed film (negative) so the emulsion side of both pieces are together. Insert the pieces into the printing frame with the negative facing the source of light. Expose the film about 20 seconds at a distance of 6 feet from a 7-watt bulb. One may need to vary these exposure conditions to suit his own situation. Following the exposure, the film should be developed as before, resulting in a positive transparency ready for mounting.

Before being projected, the transparency needs to be mounted, either in cardboard ready-mounts (similar to those in which colored 2" x 2" slides are returned from the processor) or in permanent glass slides, after which they are ready for immediate use or for filing.

Additional Tips

Keep your lighting as even as possible to prevent glare spots or shadows. Be sure the lens is kept clean at all times. Time spent in obtaining a proper focus will pay dividends in terms of good results. In your experimentation with various exposure times, keep your developing time constant. A light-tight box is handy for storing a supply of 2½" pieces of unexposed film until they are needed. If it is divided into two compartments, it can also be used for storing exposed film when you're making more than one slide at a time. Planning your work so you could make several exposures and develop them at the same time would increase your efficiency. Finally, if still potent, the chemicals could be kept in baby nursing bottles stored in a cool, dark place for later use.

With the above described homemade equipment, you can easily produce your own black and white slides.

(Continued on page 71)

Bald Knob - - -

(Continued from page 64)

ter. Another use of the film was to inform the community of the local program. Our school district is unusually large, with part of the district lying in rocky hills and the other section in river bottom land. This film brings out the contrast in the two types of farming and acquaints the boys with the projects being carried on by their fellow students. It was also used to furnish the program for the eleventh annual FFA Parent and Son Banquet, and to show to school board members, businessmen, and school administrators what the program in vocational agriculture consisted of. This film is to be shown at civic clubs, P.T.A. meetings, and any other groups interested in having the FFA chapter furnish a program.

It took some ten or eleven months to get the film completed, as the pictures had to be taken at sequential times. The film was financed by the FFA chapter at a cost of about $75.00. This cost is rather high, being our first adventure into this kind of project. Some film was lost due to lack of experience. We plan to continue to add to, take away from, and develop this film from year to year and keep it current.

The guests at the FFA Banquet were quite impressed and, as a result, the chapter has had some invitations to show it at other group gatherings. We feel this will be a great help in telling our story of FFA and vocational agriculture to the people. □

Can You Use - - - ? - - -

Some Suggestions on Filing Materials

JOE P. BAIL, Teacher Education,
Cornell University.

Joe P. Bail

THE problem of what to do with the material which passes over the Vo-Ag teacher's desk is a challenging one. Teachers solve it in many ways. A frequent solution is to simply stack it upon the desk until it falls to the floor and then discard it. Another solution is to keep everything because it may have value sometime in the future. Neither of these solutions seem to be the answer. On the basis of observation and discussion with teachers of vocational agriculture and other leaders in the field, the following points seem to stand out:

1. The Vo-Ag teacher should not attempt to file and keep all material which he receives.
2. The Vo-Ag teacher must establish some guideposts in determining what to keep and what to discard.
3. The Vo-Ag teacher, if he has not already done so, must develop the ability to recognize materials that are potentially useful to him by a quick glance or reading of the printed matter.
4. The Vo-Ag teacher must have a filing system which he uses constantly plus an index which will aid in locating materials.

What to File

The following suggestions are made relative to filing of material in the Vo-Ag Department:

1. *Magazines.* Keep the current issue plus the issues of the three previous months. When magazines become three months old, go through them for relevant and useful material. File this material, after clipping, in appropriate subject matter area. Discard old magazines or give them to students who may want to take them home for their parents. It may also be desirable to give back issues of certain magazines to elementary or junior high schools for use in selected classes.

This blanket rule may not cover all situations. For certain magazines, a yearly file may be kept. This can be done readily and attractively by punching copies and inserting them in an Accopress binder. The front cover of an issue may be glued to the outside of the Accopress binder for purposes of identification. This responsibility might be assigned to a Vo-Ag class or a committee representing the department. For professional magazines such as *The Agricultural Education Magazine*, a complete file of issues should be kept.

2. *Official Announcements from the State Office on Vo-Ag and FFA.* These may be kept in the filing space alloted to them in the regular file. However, a more practical and useful way is to punch them and keep in an Accopress binder. Since they are generally numbered and dated, you can tell at a glance whether you have a complete and up-to-date set. You may also want to indicate by initialing or in some other fashion that they have been received, read, and acted upon.

3. *Subject-Matter Materials Including Bulletins, Circulars, and Mimeographed Materials.* Bulletins and circulars should be filed with the appropriate subject-matter area. This necessitates a filing arrangement or system. The one selected should be easy to use, fit in with present or planned facilities, and be used consistently. Materials of odd or unusual sizes should be stored separately or reduced to a size which will fit in with the existing system and not detract from its appearance. Specific materials or subject matter may also be filed with actual teaching plans. Frequently, mimeographed materials need to be disassembled and the various sections placed in the proper file.

4. *Charts and Graphs.* Because of the size and expense involved in preparation of charts, care should be taken in their storage. The old system of simply rolling them up is not conducive to use or maintenance of good condition. A hanging file, with a series of 3" x 5" cards for cross-reference, is much desired over the roll-up system. This may require more space but will insure much more use.

5. *Official Reports of the Department.* The annual report of the department should be filed each year and kept for future reference. This does not mean all the records which were used in making the annual report, but merely the summary form. If space is available, the records of former students may be kept for a period of three to five years. After this time, any desired information may be secured by consulting the annual report. All forms should be dated and filed in chronological order. Old copies of forms should be discarded when new ones take their place.

Maintaining and Using A Filing System

It is necessary to select a filing system to fit your department. Various divisions should be clearly labeled and easy to locate. This will necessitate considerable time in going through material now in the file or desk and putting it in its proper place. The filing plan recommended in your state should be followed.

After the file is completed, set aside a few minutes each week to put away material which you have used or received. This is absolutely essential if you expect to maintain a satisfactory system. If you permit material to accumulate for more than one week, you will soon become accustomed to seeing it lying around and become lax in regard to filing it.

Learn to use the file automatically. Go to it daily to get material or replace material used for a short period of time. This does not take the place of the weekly task of filing material, but will greatly ease the task.

All files should be gone through annually or preferably semi-annually, to remove extraneous material. During the year it is likely that material will be kept which may be questionable as to its value. This can be evaluated more readily by an annual inventory and by checking for duplication.

As a final suggestion, keep the files neat and attractive. This will give you pride in them and be conducive

(Continued on page 71)

News and Views of the Profession

Nylund on Foreign Assignment

F. A. Nylund

Dr. F. A. Nylund, a member of the Agricultural Education Department at North Carolina State College, Raleigh, since 1946, has resigned to become associated with the Division of Training, Foreign Agricultural Service, U.S.D.A., in Washington, D. C. Dr. Nylund is a 1930 graduate of the University of Minnesota and taught vocational agriculture in that state. He received his M.S. degree from Minnesota, and his Ph.D. from Cornell University in 1946. He has been a supervisor of vocational agriculture in Minnesota, a member of the U. S. Office of Education in 1945 (Food Prod. War Training Program), and spent two years in Nicaragua, Central America, as a member of a U. S. Technical Assistance team while on leave of absence from N. C. State College in 1952-54. □

Dr. H. F. Cotterman Retires

Dr. H. F. Cotterman

ON June 30, Dr. H. F. Cotterman, long-time leader in Agricultural Education in Maryland and in the United States, retired from his position of Dean of the Faculty at the University of Maryland. At the time of retirement, Dr. Cotterman will have served education fo. forty years. During this time, he made a host of friends who wish him Godspeed on his retirement.

Dr. Cotterman was born at Farmersville, Ohio, on October 22, 1887 and will be seventy years old next October. He came to the University of Maryland, (Maryland State College) in 1917 as Professor of Agricultural Education. While serving as teacher trainer for Maryland, Dr. Cotterman was also Associate Dean and Dean of Education, State Supervisor of Agriculture twice (1917-1923 and 1935-1945), Assistant Dean of Agriculture (in charge of instruction), and Lecturer of the Maryland State Grange (1936 to 1948). He became Dean of the Faculty in 1946 at which time he discontinued his major activities in Agricultural Education.

Dr. Cotterman was noted for his enthusiasm for Agricultural Education and Rural Life. He inspired a vast number of both high school and college agricultural teachers and helped make them better performers in their field. He was in great demand as a speaker at agricultural and educational meetings over the entire State of Maryland and at National meetings. In 1945, the teachers of Vocational Agriculture in Maryland honored Dr. Cotterman with a dinner and awarded him an especially designed medal for "Meritorious Achievement in Vocational Agriculture."

Prior to coming to Maryland, Dr. Cotterman taught in a rural school in Ohio and studied Agricultural Education at Ohio State University where he received his B.S. in 1916. He was Dean of Agriculture at Ohio Northern University for two years, and attended Columbia University for one year where he received his M.A. in Rural Education. While at the University of Maryland, he attended Summer School at the University of Wisconsin, took classes part-time at George Washington University and American University and received his Ph.D. from the latter in 1930.

Dr. Cotterman was also active in all types of educational and civic organizations. He belonged to the Maryland Vocational Association (President 1928), American Vocational Association, the Maryland State Teachers' Association, American Association of University Professors, NEA, AAAS, Middle States Association of Colleges and Secondary Schools (Executive Committee), the Grange, Kiwanis (President 1940-41), Cosmos Club, and the Federal Schoolman's Club (President 1939). He was also a member of the fraternities of Phi Kappa Phi, Alpha Zeta, Omicron Delta Kappa, Phi Delta Kappa, Kappa Phi Kappa and Alpha Gamma Rho. He is listed in WHO'S WHO IN AMERICA and WHO'S WHO IN AMERICAN EDUCATION. □

Fox to U.S.D.A.

M. D. Fox

M. D. Fox resigned recently from the Department of Agricultural Education at Texas A and M College to accept a position with the U. S. Department of Agriculture in Washington, D. C. He will serve as program specialist in the Foreign Training Division.

In this position, he will work with the International Cooperation Administration and the Land Grant Colleges of the various states in preparing training programs for foreign people coming into the United States seeking training in American agriculture.

An increasing number of trainees are being sent to the United States to receive training in the various specialized fields of agriculture, such as vocational agricultural education and extension work. Too, they receive training in marketing, processing, transporting, and producing farm crops and livestock.

The Foreign Training Division cooperates with the I. C. A. and Land Grant Colleges to give each foreign student the kind of training and experience that will better prepare him to perform his duties in his home country. □

Henderson Now Assistant State Supervisor for Colorado

Duane Henderson

DUANE Henderson, born in Coggin, Iowa, and graduated in 1948 from Coggin High School, has been made assistant state supervisor for agricultural education in Colorado. He was formerly the teacher of agriculture at Las Animas, Colorado.

Duane's formal education began in Iowa and has been continued in Colorado where he is now studying for a master's degree. In Iowa, Duane earned the State Farmer degree and attended one year at Iowa State College. He then came to Colorado to attend Colorado State College of Education at Greeley; later he transferred to Colorado A & M College* where he earned his B.S. in Agriculture degree in 1952. Duane is presently enrolled at Colorado State University for graduate work.

Duane has been a leader throughout his school life. In addition to earning the State Farmer degree in Iowa, he was president of Alpha Tau Alpha, an officer in Alpha Zeta, and member of Student Council.

Upon graduation from college in 1952, Duane took the position as teacher of agriculture at Las Animas, Colorado, where he started the program and in four years was able to develop Gold Emblem FFA chapter programs (three consecutive years), two State Star Farmers, and two State winning Parliamentary teams. This is a record of which anyone would be proud.

Among the special duties Duane will assume in his new position will be that of executive secretary of FFA for Colorado. In Colorado, as in other states, the adequate administration of the affairs of FFA becomes a virtual full time assignment. □

* Became Colorado State University May 1, 1957.

....Tips that work . . .

You Can Build a Portable Bulletin-Blackboard

Perhaps during your years of teaching, you have needed diagrams or sketches to make your points clearer while teaching in a remote place where a blackboard was not available.

This problem can be solved by constructing in your spare time a portable bulletin-blackboard. Oftentimes while doing on-the-farm instruction or extension teaching, you will find this piece of equipment very handy. The details of construction of this portable bulletin-blackboard are as follows:

Check around the shop and see if you have any plywood. Cut a piece four by four feet. Cut four strips one by two inches by four feet to serve as facing around the borders of the plywood. Cut these strips at 45 degree angles to give a snug fit which would be the same as the facing on a picture frame. Before mounting these strips to the plywood, take the jointer and set it one-eighth inch and cut a groove on the outside edge on all strips for decoration. Take the same strips and set the jointer at one-fourth inch and cut a groove on the inside edge of all strips (this is for blackboard to slide in).

Mount all strips on the plywood except the strip on the right-hand side. The blackboard will slide in from this side.

Cut a piece of blackboard that will slide in and out. Take the right-hand strip and place it on a small hinge and mount it to the back of the plywood. This side will open and close to give a snug fit when the blackboard is either in or out. A small finishing nail will keep the right-hand strip in place.

Cut two pieces two by two inches by four and one-half feet. Cut end at 70 degree angles on both pieces. This part will be on the floor and will give the board a slanting effect.

Mount these two pieces (legs) to the back of the plywood toward the outer edge. Board will have four feet clearance from the floor. Use wood screws to attach legs.

Cut a third leg to the same dimensions and cut the end at a 70 degree angle in the opposite direction of the front legs. Mount this leg with a hinge in the middle of the board. Put a small piece of chain between the leg and the board to serve as a brace while it is standing, and it will fold up when the board is to be moved. The hinge on the third leg should be placed on backwards to allow the leg to fold up. Use clear varnish on the entire construction.

Herbert H. Golden,
Vo-Ag Instructor
Louisa, Virginia

Research Information Made Useable

J. C. ATHERTON
Teacher Education, Arkansas

Up-to-date teaching materials are always in demand by teachers of vocational agriculture throughout the country. A source of current agricultural research information pertaining to one's home state with the material indexed according to the subject matter and the geographical location of the experiment stations can be an invaluable aid to the teacher.

Mississippi is currently supplying this service to its teachers of vocational agriculture. Each month the Mississippi Agricultural Experiment Station publishes an eight-page paper titled *Mississippi Farm Research*. This 11 x 17 inches in size publication is sent to each teacher of agriculture in the state. However, these publications become lost and scattered over a period of time. To give these bulletins a degree of permanency and to facilitate their use by the teachers, arrangements have been made with the experiment station to bind the publications each two years. The twenty-four issues in each bound volume contain an index of all reports which provides a quick and easy reference. The Mississippi State Department of Education assumes the expense for preparing these bound volumes which amounts to $2.00 per copy. Each teacher of vocational agriculture and each veteran's instructor in Mississippi is given a copy. (These copies are not available for distribution to others.) The bound volumes of Mississippi Farm Research have proved ot be one of the best single references for teachers of Agriculture.

News and Views

(Continued from page 70)

Thomas Returns from Jamaica

James R. Thomas

JAMES R. Thomas, Associate Professor of Agricultural Education at Virginia State College, Petersburg, Virginia, will complete his two year assignment with the International Co-operation Administration in Jamaica, British West Indies, in September of this year. He has served as consultant to Jamaica's Ministry of Education and Social Welfare on the establishment of a program of Vocational Agriculture and teacher training. He was instrumental in the production of a manual, "A Program of Agricultural Education for Jamaica," in the revision of the curriculum of the Jamaica School of Agriculture for the pre-service training of agriculture teachers, in developing a program for the preparation of reference books for Vocational Agriculture and in the establishment of an in-service teacher training program. Under his direction, the first twenty schools of some 150 have been staffed with a teacher of Vocational Agriculture.

Mr. Thomas, a native of Nebraska, earned his B.Sc. degree at the University of Nebraska in 1923 and the M.Sc. degree at Cornell University in 1931. He has been a member of the agricultural faculty at Virginia State College since 1924 and head of the Department of Agricultural Education since 1942. He returns to the College at the completion of his tour of duty in Jamaica. □

Some Suggestions - - -

(Continued from page 69)

to their use. It indicates a business-like approach to the job of teaching vocational agriculture. It should save you time, make your teaching easier and more meaningful, and add to your enjoyment. Good housekeeping is as necessary in the classroom and shop as in the home. If your files are cluttered, unattractive, and unorganized, it is also a safe bet that they are not being used. Don't let your files be your failing! Let them be the key to your success as a teacher of vocational agriculture. □

Make those - - -

(Continued from page 68)

A completely new source of materials will become available for use in increasing the effectiveness of your teaching. This technique may also provide a solution to many of your problems of handling and storing materials. □

The area for grassland available for grazing in the United States decreased about 131 million acres, or almost 16 per cent, from 1900 to 1950, notes a Twentieth Century Fund survey.

A new Twentieth Century Fund study says that in 1960, as in 1950, money spent on food will be the largest single item in the consumer's budget in the United States.

In 1952, only about 12 per cent of the total employed working population in the U. S. was engaged in agriculture, notes a new Twentieth Century Fund survey.

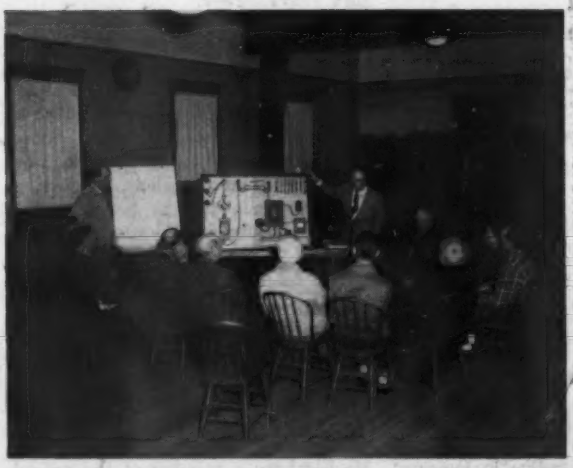
Future Farmer Bobby Grissom is taught the proper maintenance of farm machinery will increase the life and reduce operational cost. (Mississippi Vo-Ag Education Department Photo)

An advisory council at work assisting the teacher of vocational agriculture arrive at decisions regarding the program. This is the council at Eaton, Colorado. It is one of the oldest functioning councils in the state.

Stories In Pictures

David Roberts, apprentice teacher at Amphitheater High School, Tucson, Arizona, doing a post-mortem on a chicken from a boy's farm.

When it snows—it snows! Steamboat Springs, Colorado, rancher, Bill Stender, and State Farmer son, Willie, have to use snowsled to feed their herd of registered Herefords and Columbia sheep. Snowfall here oftentimes averages over 100 inches a year.



Adult Farmers receive instruction in electricity. An outside specialist, selected on his ability to present the needed information, is being used by the Vo-Ag teacher to help present the story. The teacher is Bond Bible, University High School, Morgantown, West Virginia (standing at the left) and the specialist is Les Walls, Monongahela Power Company (standing at the right).

Mr. and Mrs. Kortge and their son, Mike, receive help from Ed Bonham, Wasco County 4-H Club Agent, and Dorcey Davy, Vo-Ag Instructor at Dallas, Oregon. Mike, an outstanding 4-H boy, wanted to enroll in the vocational agriculture program. These joint conferences are greatly appreciated by the people of the community.